

Prior art coated mats were coated off-line on a separate coating process line, or on-line following drying of the bindered mat, both prior art methods coated dry mats and required extra handling, a second drying and/or heating step resulting in a substantially higher cost than the mats of the present invention due to the additional handling, higher capital costs of the additional equipment and space required by the coating process line causing higher overhead costs, and higher energy costs for the second heating step.

The resultant coated mats are novel because the resin(s) in the foam coating and in the mat binder dry and cure together, and the mats of the present invention have a higher permeability than other foam coated mats.

Claims 16-24, 26, 41-49 and 51 were rejected under 35 USC 102(e) as being anticipated by Horner, Jr. et al (6,365,533), hereinafter referred to as Horner. Applicants believe that this rejection is improper because Horner does not teach coating a wet web or mat, does not teach coating with a foam or froth having a blow ratio of at least about 12 and does not teach a coated mat having an air permeability of at least about 338 CFM/sq. ft. Horner teaches coating a dry preformed mat, col. 3, line 3, with a foam having a density as low as 0.15 gm/cc (a blow ratio as high as  $1/0.15 = \text{less than } 7$ ), col. 4, lines 30-31, and a coating that has a much lower air permeability than 338 CFM/sq. ft., see col. 4, lines 16-18, although Horner does not disclose the air permeability of their coated mats. The blow ratio of a foam is not dictated by the density and viscosity, but instead is the volume of the foam divided by its weight, i.e. the inverse of its density alone. Horner does disclose the lowest density of the foam used in the invention, 0.15 gm/cc. This is equivalent to a blow ratio of 6.67. This and the following points are supported by the enclosed Declaration of Richard Kajander, one of the co-inventors of the present invention.

The Examiner asserts that the air permeability of the coated mat of Horner would inherently be at least about 338 CFM/sq. ft., but there is no basis for this assertion. Horner's foam composition contains one or more surfactants of the type suitable for stabilizing lattices to maintain the foam structure of the coating before curing, col. 3, lines 51-55, but the present invention uses a foam of the type breaks down fairly quickly such that the coated web has enough permeability to permit drying air to penetrate the coated web, see lines 12-14 of claim 16 and similar language in claims 41 and 48. In contrast, there is basis in Horner's disclosure that indicates the low air permeability of Horner's coating. The time used for drying and curing the coated mat is 6 minutes in Example 1. In a permeable mat like that of the claimed invention, the wet mat and coating can be

dried and cured in substantially less than one minute, such as less than 0.6 minutes, because the mat is sufficiently permeable to allow the hot, reasonably high velocity air in the oven to flow through the mat in large quantities. But, in coated mat of the Horner invention, foam coated mat having a low air permeability, the mat is dried largely by removing water from the surface only with the hot air, heating the mat mainly with conduction to drive the water to the surface and then to further heat the mat to cure the resin in the foam.

For the above reasons Applicants believe that the presently claimed invention is not anticipated by the disclosure of Horner and respectfully requests the Examiner to withdraw this rejection and to allow all of the claims.

Claims 16-24, 26, 41-49 and 51 were also rejected under 35 USC 103 as being unpatentable over Horner. Applicants believe that this rejection is improper for the same reasons set out above. Horner in no reasonable way teaches coating a wet web of fibers that are not bonded together with a cured binder and teaches away from the present invention by stating that the limit of the density of the coating foam is 0.15 g/cc, a foam having a blow ratio at best of only slightly more than half that of the presently claimed invention. Horner also does not teach or reasonably suggest the limitations of claim 17. Horner also teaches using a stabilized foam while the presently claimed mat is coated with a foam that breaks down fairly quickly such that the coated mat has enough permeability to permit drying air to penetrate the coated web. There is nothing in Horner that would have led one of ordinary skill in the art to the presently claimed coated mat.

The Examiner asserts that the presently claimed product is identical in chemical composition as the coated mat of Horner, but provides no basis for this assertion and, as pointed out above, the coated mat of the present invention is substantially different than the coated mat of Horner, in air permeability and in chemistry. For these reasons Applicants believe that the presently claimed invention would not have been obvious to one of ordinary skill in the art at the time it was made from what the disclosure of Horner taught and suggested and respectfully requests the Examiner to withdraw this rejection and to allow all of the claims.

Claims 25 and 50 were rejected under 35 USC 103 as being unpatentable over Horner in view of WO 00/76932, the latter teaching using a coated fibrous mat as a facer for gypsum board. Applicants believe that this rejection is improper because of the

reasons provided above with respect to Horner and respectfully requests the Examiner to withdraw this rejection and to allow all of the claims.

Applicants believe that the present claims are in condition for allowance, but if the Examiner believes that further amendment is required the Examiner is invited to call Applicants' attorney at the number below to discuss this and to expedite the disposal of this application.

Respectfully submitted,

  
Attorney for Applicants

Robert D. Touslee  
Reg. No. 34,032  
303-978-3927